

## SEQUENCE LISTING

<110> Japan Science and Technology Agency

<120> Protein hollow nanoparticles and its-derived drugs

<130> P023P08/PCT

<150> JP 2002-339925

<151> 2002-11-22

<160> 6

<170> PatentIn Ver. 2.1

<210> 1

<211> 1218

<212> DNA

<213> Hepatitis B virus

<220>

<221> CDS

<222> (1)..(1218)

atg aga tct ttg ttg atc ttg gtt ttg tgt ttc ttg cca ttg gct gct 48

Met Arg Ser Leu Leu Ile Leu Val Leu Cys Phe Leu Pro Leu Ala Ala

1

5

10

15

ttg ggt aag gtt cga caa ggc atg ggg acg aat ctt tct gtt ccc aat 96

Leu Gly Lys Val Arg Gln Gly Met Gly Thr Asn Leu Ser Val Pro Asn

20	25	30	
cct ctg gga ttc ttt ccc gat cac cag ttg gac cct gcg ttc gga gcc			144
Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro Ala Phe Gly Ala			
35	40	45	
aac tca aac aat cca gat tgg gac ttc aac ccc aac aag gat caa tgg			192
Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn Lys Asp Gln Trp			
50	55	60	
cca gag gca aat cag gta gga gcg gga gca ttc ggg cca ggg ttc acc			240
Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly Pro Gly Phe Thr			
65	70	75	80
cca cca cac ggc ggt ctt ttg ggg tgg agc cct cag gct cag ggc ata			288
Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln Ala Gln Gly Ile			
85	90	95	
ttg aca aca gtg cca gca gca cct cct cct gcc tcc acc aat cgg cag			336
Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser Thr Asn Arg Gln			
100	105	110	
tca gga aga cag cct act ccc atc tct cca cct cta aga gac agt cat			384
Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu Arg Asp Ser His			
115	120	125	
cct cag gcc atg cag tgg aat tcc aca aca ttc cac caa gct ctg cta			432
Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His Gln Ala Leu Leu			
130	135	140	

gat ccc aga gtg agg ggc cta tat ttt cct gct ggt ggc tcc agt tcc 480

Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly Gly Ser Ser Ser

145

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155

160

gga aca gta aac cct gtt ccg act act gcc tca ccc ata tct ggg gac 528

Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro Ile Ser Gly Asp

165

170

175

cct gca ccg aac atg gag aac aca aca tca gga ttc cta gga ccc ctg 576

Pro Ala Pro Asn Met Glu Asn Thr Thr Ser Gly Phe Leu Gly Pro Leu

180

185

190

ctc gtg tta cag gcg ggg ttt ttc ttg ttg aca aga atc ctc aca ata 624

Leu Val Leu Gln Ala Gly Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile

195

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cca cag agt cta gac tcg tgg tgg act tct ctc aat ttt cta ggg gga 672

Pro Gln Ser Leu Asp Ser Trp Trp Thr Ser Leu Asn Phe Leu Gly Gly

210

215

220

gca ccc acg tgt cct ggc caa aat tcg cag tcc cca acc tcc aat cac 720

Ala Pro Thr Cys Pro Gly Gln Asn Ser Gln Ser Pro Thr Ser Asn His

225

230

235

240

tca cca acc tct tgt cct cca att tgt cct ggc tat cgc tgg atg tgt 768

Ser Pro Thr Ser Cys Pro Pro Ile Cys Pro Gly Tyr Arg Trp Met Cys

245

250

255

ctg cgg cgt ttt atc ata ttc ctc ttc atc ctg ctg cta tgc ctc atc 816  
 Leu Arg Arg Phe Ile Ile Phe Leu Phe Ile Leu Leu Leu Cys Leu Ile

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ttc ttg ttg gtt ctt ctg gac tac caa ggt atg ttg ccc gtt tgt cct 864  
 Phe Leu Leu Val Leu Leu Asp Tyr Gln Gly Met Leu Pro Val Cys Pro

275

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285

cta ctt cca gga aca tca acc acc agc acg ggg cca tgc aag acc tgc 912  
 Leu Leu Pro Gly Thr Ser Thr Thr Ser Thr Gly Pro Cys Lys Thr Cys

290

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300

acg att cct gct caa gga acc tct atg ttt ccc tct tgt tgc tgt aca 960  
 Thr Ile Pro Ala Gln Gly Thr Ser Met Phe Pro Ser Cys Cys Cys Thr

305

310

315

320

aaa cct tcg gac gga aac tgc act tgt att ccc atc cca tca tcc tgg 1008  
 Lys Pro Ser Asp Gly Asn Cys Thr Cys Ile Pro Ile Pro Ser Ser Trp

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gct ttc gca aga ttc cta tgg gag tgg gcc tca gtc cgt ttc tcc tgg 1056  
 Ala Phe Ala Arg Phe Leu Trp Glu Trp Ala Ser Val Arg Phe Ser Trp

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ctc agt tta cta gtg cca ttt gtt cag tgg ttc gta ggg ctt tcc ccc 1104  
 Leu Ser Leu Leu Val Pro Phe Val Gln Trp Phe Val Gly Leu Ser Pro

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365

act gtt tgg ctt tca gtt ata tgg atg atg tgg tat tgg ggg cca agt 1152

Thr Val Trp Leu Ser Val Ile Trp Met Met Trp Tyr Trp Gly Pro Ser  
 370 375 380

ctg tac aac atc ttg agt ccc ttt tta cct cta tta cca att ttc ttt 1200  
 Leu Tyr Asn Ile Leu Ser Pro Phe Leu Pro Leu Leu Pro Ile Phe Phe  
 385 390 395 400

tgt ctt tgg gta tat att 1218  
 Cys Leu Trp Val Tyr Ile  
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<211> 406

<212> PRT

<213> Hepatitis B virus

<400> 2

Met Arg Ser Leu Leu Ile Leu Val Leu Cys Phe Leu Pro Leu Ala Ala  
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Leu Gly Lys Val Arg Gln Gly Met Gly Thr Asn Leu Ser Val Pro Asn  
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Pro Leu Gly Phe Phe Pro Asp His Gln Leu Asp Pro Ala Phe Gly Ala  
 35 40 45

Asn Ser Asn Asn Pro Asp Trp Asp Phe Asn Pro Asn Lys Asp Gln Trp  
 50 55 60

Pro Glu Ala Asn Gln Val Gly Ala Gly Ala Phe Gly Pro Gly Phe Thr  
 65 70 75 80

Pro Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln Ala Gln Gly Ile  
 85 90 95

Leu Thr Thr Val Pro Ala Ala Pro Pro Pro Ala Ser Thr Asn Arg Gln  
 100 105 110

Ser Gly Arg Gln Pro Thr Pro Ile Ser Pro Pro Leu Arg Asp Ser His  
 115 120 125

Pro Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His Gln Ala Leu Leu  
 130 135 140

Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly Gly Ser Ser Ser  
 145 150 155 160

Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro Ile Ser Gly Asp  
 165 170 175

Pro Ala Pro Asn Met Glu Asn Thr Thr Ser Gly Phe Leu Gly Pro Leu  
 180 185 190

Leu Val Leu Gln Ala Gly Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile  
 195 200 205

Pro Gln Ser Leu Asp Ser Trp Trp Thr Ser Leu Asn Phe Leu Gly Gly

210

215

220

Ala Pro Thr Cys Pro Gly Gln Asn Ser Gln Ser Pro Thr Ser Asn His

225

230

235

240

Ser Pro Thr Ser Cys Pro Pro Ile Cys Pro Gly Tyr Arg Trp Met Cys

245

250

255

Leu Arg Arg Phe Ile Ile Phe Leu Phe Ile Leu Leu Leu Cys Leu Ile

260

265

270

Phe Leu Leu Val Leu Leu Asp Tyr Gln Gly Met Leu Pro Val Cys Pro

275

280

285

Leu Leu Pro Gly Thr Ser Thr Thr Ser Thr Gly Pro Cys Lys Thr Cys

290

295

300

Thr Ile Pro Ala Gln Gly Thr Ser Met Phe Pro Ser Cys Cys Cys Thr

305

310

315

320

Lys Pro Ser Asp Gly Asn Cys Thr Cys Ile Pro Ile Pro Ser Ser Trp

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330

335

Ala Phe Ala Arg Phe Leu Trp Glu Trp Ala Ser Val Arg Phe Ser Trp

340

345

350

Leu Ser Leu Leu Val Pro Phe Val Gln Trp Phe Val Gly Leu Ser Pro

355

360

365

Thr Val Trp Leu Ser Val Ile Trp Met Met Trp Tyr Trp Gly Pro Ser  
 370 375 380

Leu Tyr Asn Ile Leu Ser Pro Phe Leu Pro Leu Leu Pro Ile Phe Phe  
 385 390 395 400

Cys Leu Trp Val Tyr Ile  
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<210> 3

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence

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gccggtaccg cgagcttacc agttctc

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<210> 4

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
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<210> 5

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

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<210> 6

<211> 39

<212> DNA

<213> Artificial Sequence

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Synthesized Primer Sequence

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